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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,704	02/28/2002	Masahide Yamaki	15337	1516
7590 06/07/2004				
Scully, Scott, Murphy & Presser 400 Garden City Plaza Garden City, NY 11530		EXAMINER LEUBECKER, JOHN P		
		ART UNIT 3739		PAPER NUMBER 10

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/085,704

Applicant(s)

YAMAKI ET AL.

Examiner

John P. Leubecker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-16,18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-16,18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Light Source Device for Endoscope Using a DMD.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 2 and 3 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 3 appear to be not further limiting to the claimed structure these claims redundantly recite the function of the mirror control circuit (i.e. controlling the plurality of micromirrors based on a signal). It is noted that what the signal is "based on" or represents does not structurally change the mirror control circuit.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosoda (U.S. Pat. 6,464,633)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claims 1-3 and 5, and referring mainly to Figure 24, Hosoda et al. disclose a light source lamp (111), a DMD (60), a light converging optical system (144), a driving means (68), and a mirror control circuit (67) which alters the direction of the illumination light based on a signal. It is noted that what the signal is capable of representing does not offer further structural limitation to the mirror control circuit. As to claim 4, note Figure 62 which shows the elements mentioned above and further including a mirror (mirrored surface of prism 453). Also note Figure 85 with respect to claim 4.

6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Jovin et al. (U.S. Pat. 6,128,077).

Jovin et al. disclose a light source apparatus comprising a light source lamp(110), a DMD (120), a light-converging optical system (141), a mirror control circuit and drive means (not shown, but inherent and described generally in column 5, lines 36-40 and col.5, line 62 to col.6, line 8) which alters the direction of the illumination light reflected by the DMD base on control signals, and mirror (132) which reflects an incident light component out of light reflected by the DMD.

Claim Rejections - 35 USC § 103

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being obvious over Hosoda et al.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or

subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

The embodiment shown in Figure 62 of Hosoda et al. fails to disclose an integrator between the mirror (453) and the light converging optical system. However, Hosoda et al. teach in other embodiments (Fig.45) that it is desirable to place an integrator (235, Fig.45) immediately before the light converging optical system (236). It would have been obvious to one of ordinary skill in the art to have provided an integrator before the light converging optical system of Figure 62 for the reasons it is used in Hosoda et al. (e.g., to make the light uniform, col.20, lines 54-60).

8. Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoda et al.

As seen in Figure 24, Hosoda et al. disclose the elements of claims 1-5 and 8-10 (note rotating filter 91, Fig.25) except for the positioning of the DMD, the mirror (61) and the filter (91). In Figure 24, the DMD, the mirror (61), and filter (91) are reversed in the optical path with respect to the positioning recited in claims 4 and 8. Since Hosoda et al. nor Applicant provides any significance in the positioning of these components and reversing these positions would not effect the optical path in any way, it would have been obvious to one of ordinary skill in the art, as a matter of design, to have reversed the positions of the DMD, mirror and filter so that the mirror receives light from the DMD and the filter intercepts a light path between the mirror and the light-converging optical system (144).

9. Claims 11-16, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosoda et al. in view of Uehara et al. (U.S. Pat. 4,887,153).

Referring to Figure 24, Hosoda et al. disclose the elements as described above including a light guide, an imaging element (118), and a control signal generating circuit (123) for generating an exposure time control signal. It is assumed since it is not explicitly stated that the control signal generating circuit generates one exposure time control signal for a single type of imaging element. Hosoda et al. fails to disclose a type determining circuit for determining the type of imaging element or that the exposure time is changed in accordance with the type of imaging element. However, as shown by Uehara et al., it is known and within ordinary skill in this art to provide a type determining circuit for determining the type (e.g., number of pixels) of imaging element and to control the exposure time of the imaging element by using the light source (col.3, line 64 to col.4, line 19). This conveniently allows multiple endoscopes with different types of imaging elements to be used with the same light source/video processor (col.2, lines 3-8). In view of such teaching, it would have been obvious to one of ordinary skill in the art to have provided a type determining circuit such that the control signal generating circuit controls the exposure time of the imaging element in accordance with the type of imaging element determined by the type determining circuit.

As to claims 16, 18 and 19, Hosoda et al. in view of Uehara et al. teach all the elements except for the positioning of the DMD, the mirror (61) and the filter (91). In Figure 24, the DMD, the mirror (61), and filter (91) are reversed in the optical path with respect to the positioning recited in claims 16 and 18. Since Hosoda et al. nor Applicant provides any significance in the positioning of these components and reversing these positions would not effect the optical path in any way, it would have been obvious to one of ordinary skill in the art, as a matter of design, to have reversed the positions of the DMD, mirror and filter so that the

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mirror receives light from the DMD and the filter intercepts a light path between the mirror and the light-converging optical system (144).

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 1-3 and 5 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,464,633. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations of claims 1-3 and 5 are encompassed by patented claim 1. It is noted that the motor control circuit of application claim 1 is encompassed by the light adjustment circuit and mirror device drive circuit of patented claim 1. It is also noted that what the signal (exposure time control) of application claim represents does not structurally change the circuit. The mirror device drive circuit of patented claim 1 still alters the direction of the illumination light based on a signal.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

MacAulay et al. (US 2003/0076571)—note use of DMD in light source device for endoscope.

Jap. Pat. 2001-59942, Jap. Pat. 2001-221959, and Jap. Pat. 2001-235686—note use of DMD devices (translations are currently being obtained).

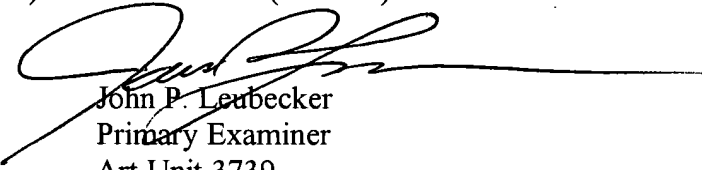
13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (703) 308-0951. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P. Leubecker
Primary Examiner
Art Unit 3739

jpl